

REMARKS

This Preliminary Amendment is filed in connection with a Request for Continued Examination and Request for 1 Month Extension of Time and in response to the Office Action of February 9th, 2005. All objections and rejections are respectfully traversed.

Claims 1-4, 6-20, 22-38, and 40-49 are now pending in the case.

Claims 1, 7, 13, 14, 15, 16, 22, 23, 24, 30, 31, 32, and 38 have been amended to better claim the invention.

Claims 40-49 have been added.

Claims 5, 21 and 39 have been cancelled.

The Applicant notes that the Examiner has not mentioned in the Advisory Action the objections and rejections of paragraphs 11, 12 and 14 of the Office Action of February 9th, 2005. Accordingly, the Applicant assumes the Examiner no longer maintains these objections and rejections. If this is not the case, the Applicant respectfully requests clarification.

Allowable Claims

At paragraphs 1 and 2 of the Advisory Action, claim 6 has been allowed and claims 16, 24 and 32 have been indicated to be allowable if written in independent form. In light of the Examiner's comments, the Applicant has added new claims.

Claim Rejections 35 U.S.C. §101

At paragraph 3 of the Advisory Action, claim 39 has been rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. The Applicant has cancelled claim 39.

Claim Rejections 35 U.S.C. §102

At paragraph 4 of the Advisory Action, claims 8 and 12 were rejected under 35 U.S.C. §102(b) as anticipated by Bhanot et al., U. S. Patent No. 5,796,934, issued August 14th, 1998 (hereinafter Bhanot).

The present invention, as set forth by representative claim 8, comprises in part:

8. A file server for use in a file server cluster, the file server operatively interconnected with a set of clients using a network protocol, the network protocol being free of support for moving a transport address from a first file server to a second file server, the file server comprising:

a cluster interconnect, the cluster interconnect providing a communications link to a partner file server in the file server cluster;

a primary data access port for receiving file service operations from file server clients; and

a secondary data access port, the secondary data access port only being active when the file server detects that the partner file server has suffered an error condition, wherein the file server processes file service operations received via the secondary data access port to provide file service operations to clients of the partner file server.

Bhanot discloses a backup system with a log of transactions. A plurality of clients (Fig. 3, items 301-304) are connected to servers (Fig. 3, items 306, 307), each client connected to a designated “primary” server by a primary connection. See col. 5, lines 5-12. If a server fails, clients establish, via a client interface layer (Fig. 4, item 404), a “secondary” connection (Fig. 3, items 308, 309) to a backup server via a TCP/IP connec-

tion. *See* col. 6, lines 1-2. Such connection (Fig 4, item 411) is made between the physical network layers (Fig 4, items 405, 410) of the clients and the backup server. *See* col. 6, lines 32-37.

The Applicant respectfully urges that Bhanot is silent concerning the Applicant's claimed "*a primary data access port*" and "*a secondary data access port, the secondary data access port only being active when the file server detects that the partner file server has suffered an error condition, wherein the file server processes file service operations received via the secondary data access port to provide file service operations to clients of the partner file server.*"

While the Applicant teaches a file server having *a primary data access port* and *a secondary data access port... wherein the file server processes file service operations received via the secondary data access port to provide file service operations to clients of the partner file server*, Bhanot is completely silent concerning a server having two such ports. Bhanot merely discloses a client having a primary connection to a primary file server and a secondary connection to a backup file server. Such client connections are simply paths from a client to two different servers. Bhanot provides no disclosure concerning a file server having designated separate ports for handling primary and backup traffic.

Accordingly, the Applicant respectfully urge that Sundaresan is legally insufficient to anticipate the presently claimed invention under 35 U.S.C. §102(b) because of the absence of the Applicant's claimed novel "*a primary data access port*" and "*a secondary data access port, the secondary data access port only being active when the file*

server detects that the partner file server has suffered an error condition, wherein the file server processes file service operations received via the secondary data access port to provide file service operations to clients of the partner file server.”

At paragraph 5 of the Advisory Action, claims 1-4, and 11 were rejected under 35 U.S.C. §102(e) as being anticipated by Sundaresan et al., U. S. Patent Application Publication No. US 2003/0033412 A1, published February 13th, 2003 (hereinafter Sundaresan).

The present invention, as set forth by representative claim 1, comprises in part:

1. A method for a first file server to provide file service operations normally performed by a second file server after the second file server suffers an error condition, the first and second file servers operatively interconnected with a set of clients using a network protocol, the network protocol being free of support for moving a transport address from the second file server to the first file server, the method comprising the steps of:

detecting, by the first file server, that the second file server has suffered an error condition;

asserting ownership, by the first file server, of a set of storage devices normally owned by the second file server;

activating, on the first file server, a secondary data access port for receiving connections over a network; and

processing, by the first file server, file service operations directed to the secondary data access port from a set of failover clients, *the failover clients accessing the first file server by computing a network address associated with the first file server from a first symbolic name, the first symbolic name generated by the failover client from a second symbolic name associated with the second file server*, whereby failover operation is achieved by the client.

Sundaresan discloses a failover technique for servers grouped into a cluster of servers. The cluster of servers has a designated SRP server (also called a UDP element)

that maintains port numbers and network addresses for all the servers in the cluster. *See* paragraphs 0027 and 0028, and Fig. 2, item 21. In the event a server of the cluster fails, a client previously communicating with the failed server sends an SRP message to the SRP server requesting a backup server. *See* paragraph 0036. The SRP server responds with port and network address information for a backup server. *See id.* “Of course, such a procedure is not available where the active SRP server 14 terminates catastrophically.” *See* paragraph 0040. Additional redundancy mechanisms are therefore provided for the SRP server. *See id.*

The Applicant respectfully urges that Sundaresan is silent concerning the Applicant’s claimed “*the failover clients accessing the first file server by computing a network address associated with the first file server from a first symbolic name, the first symbolic name generated by the failover client from a second symbolic name associated with the second file server.*”

The Applicant teaches a first symbolic name generated by the failover client from a second symbolic name associated with the second file server and using the first symbolic name to compute a network address. In sharp contrast, Sundaresan discloses clients that do not generate a symbolic names of backup servers themselves, but instead query an external SRP server for information. Such an approach as Sundaresan suffers shortcomings that are overcome by the Applicant’s invention. For example, Sundaresan admits that “[o]f course, such a procedure is not available where the active SRP server 14 terminates catastrophically.” Without a functioning SRP server, Sundaresan appears un-

able to determine the name of an appropriate backup server. The Applicant novelly generates a symbolic name by the client, overcoming such a limitation.

Accordingly, the Applicant respectfully urge that Sundaresan is legally insufficient to anticipate the presently claimed invention under 35 U.S.C. §102(e) because of the absence of the Applicant's claimed novel "*the failover clients accessing the first file server by computing a network address associated with the first file server from a first symbolic name, the first symbolic name generated by the failover client from a second symbolic name associated with the second file server.*"

Claim Rejections – 35 U.S.C. §103

At paragraph 6 of the Office Action, claims 5, 7, and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sundaresan in view of Gronke, U. S. Patent Application Publication No. 2002/0071386, published June 13th, 2002 (hereinafter Gronke).

The Applicant has cancelled claim 5 and amended claim 7 to depend upon allowed claim 6. Further, the Applicant has amended claim 13 in light of the Examiner's comments and such claim should now be allowable.

At paragraph 7 of the Advisory Action, claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bhanot, in view of Sundaresan.

The Applicant respectfully notes that claims 9 and 10 both depend from an independent claim that is believed to be in condition for allowance. Accordingly, the dependent claims are believed to be in condition for allowance as well.

At paragraph 8 of the Advisory Action, claims 14-15, 17-23, 25-31, and 33-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over French et al., U.S. Patent No. 6,745,241, issued on June 1, 2004 (hereinafter French), in view of Sundaresan and Gronke.

The present invention, as set forth by representative claim 14, comprises in part:

14. A method for operating a computer failover system, comprising:
 - executing a client computer program on a client computer, the client computer program communicating with a first file server, the first file server associated with a file server name;
 - computing from the file server name, by a file system process on the client computer, a failover name associated with a failover file server;*
 - resolving the failover name to a network address;
 - detecting an error condition; and
 - connecting, in response to detecting the error condition, to a failover file server port having the network address.

French discloses a method for server failover. Servers are assigned primary and secondary server names (network names) and store this information in local data structures. *See col. 8, lines 15-22.* If a primary server fails, a secondary server may be reconfigured, either manually or by failover software, to assume the primary server's name and execute the primary server's functionality. *See col. 14, lines 56 to col. 15, line 15.*

Sundaresan discloses a failover technique for servers grouped into a cluster of servers, and is described in depth above.

Gronke discloses a failover system in which clients communicate to servers using virtual ports. In the event of a failure of a virtual port, a client and server switch to the next functional virtual port and re-establish the connection. *See paragraph 41, lines 1-5.* For example, if communication through port P_n fails, the client and server may switch to port P_1 . *See paragraph 41, lines 5-10.*

The Applicant respectfully urges that French, Sundaresan, and Gronke are silent concerning the Applicant's claimed "*computing from the file server name, by a file system process on the client computer, a failover name associated with a failover file server.*"

While the Applicant novelly teaches a client "*computing from the file server name...a failover name associated with a failover file server,*" all three references are silent concerning such a feature. French, in sharp contrast, discloses reassigning an existing primary server's name to the secondary server. Such dynamic reassignment of names may not be possible in many network configurations, and requires undesirable re-configuration. Sundaresan, in sharp contrast, discloses sending SRP messages to a SRP server to determine information about a backup server. Finally, Gronke, in sharp contrast, discloses a list of many virtual ports and selecting one of the many possible alternate virtual port in the case of failure.

Accordingly, Applicant respectfully urges that French, Sundaresan, and Gronke, taken either singly, or in combination, are legally precluded from rendering Applicant's

PATENTS
112056-0035
P01-1311

claimed invention obvious under 35 U.S.C. § 103(a) because of the absence of Applicant's claimed novel "*computing from the file server name, by a file system process on the client computer, a failover name associated with a failover file server.*"

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-3078.

All independent claims are believed to be in condition for allowance.

All dependent claims are believed to depend from allowable independent claims.

The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,



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